



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/052,475	01/17/2002	Yuchun Wang	042496/0269274 NT-238(U)	2723

7590 09/08/2003
PILLSBURY WINTHROP LLP
1600 Tysons Boulevard
McLean, VA 22102

EXAMINER

THOMAS, DAVID B

ART UNIT	PAPER NUMBER
----------	--------------

3723

DATE MAILED: 09/08/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,475

Applicant(s)

WANG ET AL.

Examiner

David B. Thomas

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19-31 is/are allowed.
- 6) ☒ Claim(s) 1-5, 15 and 16 is/are rejected.
- 7) ☒ Claim(s) 6-14, 17 and 18 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

Art Unit: 3723

DETAILED ACTION

1. The indicated allowability of claims 4 and 5 is withdrawn in view of the reconsideration of the prior art of record. A rejection based on the reconsideration of the prior art of record follows.

Response to Arguments

2. Applicant's arguments, see pages 7-15, filed June 12, 2003, with respect to the anticipation of claims 1, 14, and 15 by Birang et al. (6,244,935), the obviousness of claims 2, 3, 8-10, 12, and 16 over Birang et al. ('935) in view of Jairath et al. ('248), and the obviousness of claims 7, 13, 19, 20, 25, 26, and 30 over Birang et al. ('935) in view of Travis et al. ('959) have been fully considered and are persuasive. Therefore, the rejection of the claims, as previously applied, has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Jairath et al. (6,146,248).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

4. Claims 1-5, 15, and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Jairath et al. (6,146,248).

Jairath et al. ('248) disclose a chemical mechanical polishing (CMP) apparatus for polishing a surface of a workpiece and for detecting a CMP endpoint, comprising: an optically transparent polishing belt 220 to polish the surface of the workpiece, the polishing belt 220 being movable in one or more linear directions; a workpiece holder 210 to support the workpiece, the workpiece holder 210 configured to press the workpiece against the polishing belt 220; a support plate 240 adapted to support the polishing belt as the workpiece is pressed against the polishing belt; and an optical detection system 250 to detect the CMP endpoint, the optical detection system 250 disposed below the polishing belt and comprising a light source and a detector, the light source sending outgoing signals through the polishing belt to the surface of the workpiece and the detector receiving incoming reflected signals from the surface of the workpiece through the polishing belt (Col. 9, lines 57-67, Col. 10, lines 1-64); wherein the optically transparent polishing belt comprises a composite structure; wherein the composite structure is comprised of a first transparent layer placed on a second transparent layer; wherein the first transparent layer is an abrasive layer comprising abrasive particles distributed in a binder matrix; and wherein outgoing signals are a light beam in the wavelength range of 600-900 nanometers (Col. 7, lines 60-67, Col. 8, lines

Art Unit: 3723

1-67, Col. 9, lines 1-55). Jairath et al. ('248) further meets the method of polishing a surface of a workpiece and of detecting a chemical mechanical polishing (CMP) endpoint, comprising: pressing the workpiece against an optically transparent polishing belt, the polishing belt being supported by a support plate; polishing the surface of the workpiece with the polishing belt, wherein the polishing belt is movable in one or more linear directions; sending outgoing optical signals from a light source through the polishing belt to the surface of the workpiece, the light source disposed below the polishing belt so that the polishing belt is between the light source and the surface of the workpiece; and receiving, at a detector, incoming reflected optical signals from the surface of the workpiece through the polishing belt and the support plate, the detector disposed below the polishing belt; wherein sending signals and receiving signals steps uses a light beam of 600-900 nanometers wavelength range.

Allowable Subject Matter

5. Claims 6-14, 17 and 18 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Claims 19-31 are allowed.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David B. Thomas whose telephone number is (703) 308-4250. The examiner can normally be reached on 8:00-6:30 M-TH.

Art Unit: 3723

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph J. Hail can be reached on (703) 308-2687. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.



Joseph J. Hail, III
Supervisory Patent Examiner
Technology Center 3700


dbt